

ANNEX 1

# KNITTING TECHNOLOGY

Second Edition

A Comprehensive Handbook and  
Practical Guide to  
Modern Day Principles and Practices

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**Knitting Technology**

In single-faced structures it can only be produced on machines whose feeds or needles have a reciprocating action so that the yarn only passes across needles which are knitting, otherwise a float stitch would be produced. Held stitches of this type are used for producing three-dimensional shaping such as heel and toe pouches for footwear, held loop shaping on flat machines and designs in solid colour intarsia. Held stitches are produced in double-faced structures by holding loops on one bed whilst continuing to knit on the other thus producing horizontal welt and cord effects.

**9.2****The Drop or Press-off Stitch**

A drop stitch fault will result if a needle releases its old loop without receiving a new one, sometimes this technique is used to achieve a press-off on all needles in a set between garment length sequences. A drop stitch or press-off stitch is used very occasionally in flat knitting to cause certain loops in a plain structure to be much larger than the rest. Knitting takes place on only one bed of needles and selected needles in the other bed pick up loops which are immediately pressed-off by not receiving a new yarn. The yarn from the pressed-off loops flows into the adjacent loops in the other bed making them larger, giving the impression of a much coarser gauge. Drop stitch wales are sometimes used to provide a guide for the cutting operation. A secure structure is only produced when a needle retains its old loop if it does not receive a new loop.

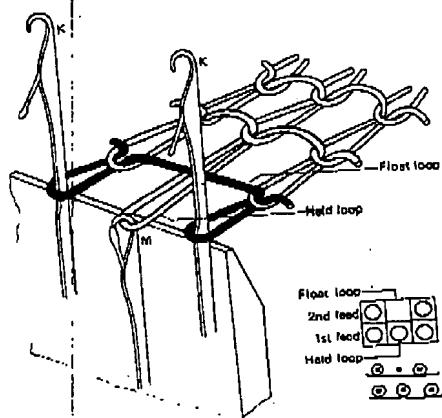
**9.3****The Float Stitch**

Fig. 9.1.

A float stitch (Fig. 9.1) is composed of a held loop, one or more float loops and knitted loops. It is produced when a needle (M) holding its old loop fails to receive the new yarn which passes, as a float loop, to the back of the needle and to the reverse side of the resultant stitch, joining together the two nearest needle loops knitted from it.

The float or welt stitch (Fig. 9.2) shows the missed yarn floating freely on the reverse side of the held loop which is the technical back of single jersey structures, but is the inside of rib and interlock structures. The float extends from the base of one knitted or tucked loop to the next and is notated either as an empty square or as a by-passed point, it is assumed that the

## Stitches Produced by Varying the Timing of the Needle Loop Intermeshing

whose loop extends into the passes above until a knitted loop is indicated.

A single float stitch has the appearance of a 'U' shape on the reverse of the stitch. Structures incorporating float stitches tend to exhibit faint horizontal lines, they are narrower because the loops are drawn closer together and the held loop robs yarn from adjacent loops thus reducing width-wise elasticity and improving fabric stability.

Under normal take-down tension and yarn elasticity the maximum number of successive floats on the needle is four. Six adjacent needles are usually the maximum number for a continuous float because of reduced elasticity and problems of snagged threads, especially in continuous filament yarns and coarse gauges. Missing floats are useful for hiding an unwanted coloured yarn behind the face loop of a plain of a selected colour when producing jacquard designs in face loops of different colours (adjacent needle floating Fig. 9.8, successive floating on one needle Fig. 9.9).

The miss stitch can occur accidentally as a fault as a result of incorrectly set yarn feeders.

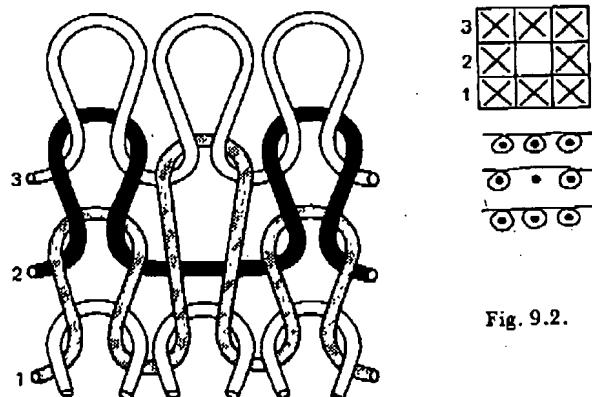


Fig. 9.2.

Float plating produces an openwork mesh structure in single jersey and involves feeding two yarns in a plating relationship to needles having forward looks (Fig. 9.3). A heavy yarn (A), for example, 30 denier, is fed at a high level and only received by needles selected to that height whereas the fine yarn (B), possibly 15 denier, is fed at a lower level and is received and knitted by every needle. Two course

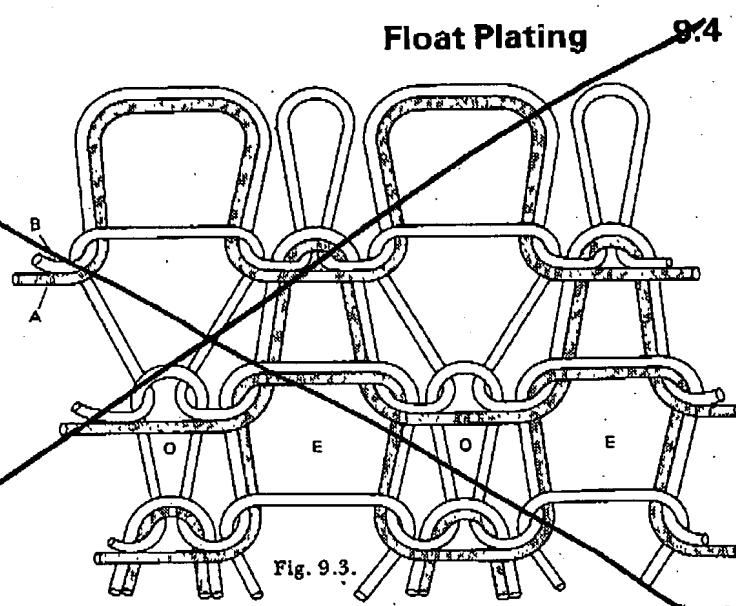


Fig. 9.3.